DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/12/09 has been entered.

Applicants' arguments, filed 11/12/09, have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claim Objections

Claim 1-4 and 8-10 are objected to because of the following informalities:

In claims 1 and 4, the specific groupings of cancers to agents are unclear due to the grammar/punctuation recited in the instantly submitted claims. Examiner suggests the following format:

…wherein:

(a) the cancer is ovarian, pancreatic or prostate cancer and the chemotherapeutic agent is cisplatin; or

(b) the cancer is ovarian and the chemotherapeutic agent is carboplatin; or

(c) the cancer is ovarian or prostate cancer and the chemotherapeutic agent is paclitaxel; or

(d) the cancer is ovarian or pancreatic cancer and the chemotherapeutic agent is gemcitabine or doxorubicin.

Claim Rejections - 35 USC § 112 – Scope of Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 8-10 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the method of treating, does not reasonably provide enablement for the method of preventing. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. Note, the specification defines the term "treatment" to include “preventing” a particular condition (pg 17 lines 4-8).

To be enabling, the specification of the patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation. In re Wright, 999 F.2d 1557, 1561 (Fed. Cir. 1993). Explaining what is meant by “undue experimentation,” the Federal Circuit has stated:

> The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed to enable the determination of how to practice a desired embodiment of the

claimed invention. PPG v. Guardian, 75 F.3d 1558, 1564 (Fed. Cir. 1996).[1]

The factors that may be considered in determining whether a disclosure would require undue experimentation are set forth by In re Wands, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing Ex parte Forman, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

1) the quantity of experimentation necessary,
2) the amount of direction or guidance provided,
3) the presence or absence of working examples,
4) the nature of the invention,
5) the state of the prior art,
6) the relative skill of those in the art,
7) the predictability of the art, and
8) the breadth of the claims.

These factors are always applied against the background understanding that scope of enablement varies inversely with the degree of unpredictability involved. In re Fisher, 57 CCPA 1099, 1108, 427 F.2d 833, 839, 166 USPQ 18, 24 (1970). Keeping that in mind, the Wands factors are relevant to the instant fact situation for the following reasons:

1. The nature of the invention, state and predictability of the art, and relative skill level

The invention relates to the prevention of cancer. The relative skill of those in the art is high, that of an MD or PHD. That factor is outweighed, however, by the

[1] As pointed out by the court in In re Angstadt, 537 F.2d 498 at 504 (CCPA 1976), the key word is "undue", not

unpredictable nature of the art. As illustrative of the state of the art, the examiner cites as illustrative of the state of the art, Suggitt and Bibby, Clinical Cancer Research, 2005, Vol 11,971-981. Suggitt and Bibby teaches the unpredictability of treating cancer. Note however, that the current human tumor cell line in vitro screen is generally unpredictable. Modern methods are susceptible to false-positive and false- negative results. (page 973 1st paragraph on right-hand column). Difficulty in determining results leads to difficulty in testing for effectiveness of compounds, which leads to unpredictability in treating and preventing cancers.

2. The breadth of the claims

Since the instant specification provides no limiting definition of the term "prevention", the term will be interpreted expansively. The term "prevention" may vary widely in meaning, from "preventing" a disease from occurring to "preventing" it from progressing. Nor is the term limited by any time frame.

The claims are thus very broad insofar as they suggest that one will not experience the disease when taking the claimed agent; that should one get the disease, it will not worsen; or that following its treatment, it will not recur. While such "prevention" might theoretically be possible under strictly controlled laboratory conditions, as a practical matter it is nearly impossible to achieve in the "real world" in which patients live.

"experimentation".

3. The amount of direction or guidance provided and the presence or absence of working examples

The specification provides no direction or guidance for practicing the claimed invention in its “full scope”. No reasonably specific guidance is provided concerning useful therapeutic protocols for preventing cancer.

4. The quantity of experimentation necessary

Because of the known unpredictability of the art, and in the absence of experimental evidence, no one skilled in the art would accept the assertion that the instantly claimed agents could be predictably used to prevent cancers as inferred by the claim and contemplated by the specification. Accordingly, the instant claims do not comply with the enablement requirement of §112, since to practice the claimed invention in its “full scope” a person of ordinary skill in the art would have to engage in undue experimentation, with no assurance of success.

Examiner suggests amending claim 4 to state, A method ~~combination therapy for the treatment of cancer~~ comprising …, thereby removing the term “treatment" from the claims.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 23 stands rejected under 35 U.S.C.103(a) as being unpatentable over Kelly et al (WO98/008503) in view of Ekwurlbe et al (US 6,380,405).

Applicants assert the claims have been amended to only the combinations which support the showing of unexpected results.

Examiner disagrees. Claim 23 is not limited to specific cancers. As such, the skilled artisan would not have guidance as to what the dosage amounts are required to make the composition limited to just the treatment of the specific cancers amended into claim 1. The instant specification, at pg 38, discloses that there is a limited range at which the beneficial result are seen for dehydroequol and cisplatin, where at 10mg/kg dehydroequol and 0.5mg/lg cisplatin the results are more markedly than over the adminsitration of 20mg/kg dehydroequol and 1mg/lg cisplatin (pg 38 lines 10-18).

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Obvious-Type Double Patenting

Claim 23 stands rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-21 of U.S. Patent No. 6,649,648 in view of Ekwurlbe et al (US 6,380,405).

As discussed above, the asserted unexpected superior results is not commiserate in scope of the instant claims and therefore not sufficient to overcome the rejection.

Claim 23 stands provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13- 38 of copending Application No. 10/547,077 in view of Ekwurlbe et al (US 6,380,405).

As discussed above, the asserted unexpected superior results is not commiserate in scope of the instant claims and therefore not sufficient to overcome the rejection.

Allowable Subject Matter

Claims 1-4 and 8-10 are free of the prior art and will be allowed upon overcoming the rejection stated above. The closest prior art is Kelly et al (WO98/008503) in view of Ekwurlbe et al (US 6,380,405), which is overcome by the showing that the specific combinations of dehydroequol and a chemotherapeutic agent selected from cisplatin, carboplatin, paclitaxel, gemcitabine or doxorubicins, when administered to ovarian, pancreatic, or prostate cancer (respectively), unexpectedly lowers the IC50 value of the active agent as demonstrated in the instant specification pt pg 37 table 1 and the prior art submitted by Applicants, Brown et al, Ionoxil, Drugs of the Future 33(10) 2008, pp 1-17, where at pg 5 Table 1 and Fig 1, the augmented effect of the anticancer agent is disclosed and at pg 6 Tabe II for the effect in ovarian xenograft growth models. Note, independent claims 1 and 4 are directed to a method of treatment, therefore the skilled artisan, when practicing the method, would understand from the

disclosure of the specification what amounts would be required to produce the desired synergistic effect.

Examiner notes that claim 23 is directed to a composition, and while the limitation directed to the treatment of a specific cancer would guide the skilled artisan in the method claims, such a limitation would be construed as an intended use in a composition claim, and an intended use limitation would not limit the claim to just the embodiments which might treat the recited cancer. Without such guidance, the showing discussed above does not support a showing of unexpected results with regards to the broader composition claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Packard whose telephone number is 571-270-3440. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Krass can be reached on 571-272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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